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## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>6</sup> : <b>H04B 17/00, H04N 7/00</b>		A1	(11) International Publication Number: <b>WO 97/17774</b> (43) International Publication Date: <b>15 May 1997 (15.05.97)</b>
<p>(21) International Application Number: <b>PCT/US96/17690</b></p> <p>(22) International Filing Date: <b>5 November 1996 (05.11.96)</b></p> <p>(30) Priority Data: 08/553,132 7 November 1995 (07.11.95) US</p> <p>(71) Applicant: <b>SEIKO COMMUNICATIONS SYSTEMS, INC.</b> [US/US]; Suite 140, 1625 N.W. Amber Glen Court, Beaverton, OR 97006 (US).</p> <p>(72) Inventor: <b>PARK, Michael, C.</b>; 9665 S.W. Melmore Street, Portland, OR 97225 (US).</p> <p>(74) Agent: <b>GALBI, Elmer</b>; Seiko Communications Systems, Inc., Suite 140, 1625 N.W. Amber Glen Court, Beaverton, OR 97006 (US).</p>		<p>(81) Designated States: AU, BR, CA, CH, CN, JP, KR, MX, RU, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</p> <p><b>Published</b> <i>With international search report.</i></p> <p><i>profile created when user subscribe to service</i></p>	
<p>(54) Title: <b>SELECTIVE ADVERTISEMENT PRESENTATION</b></p> <p>(57) Abstract</p> <p>Selective advertisement presentation occurs by first downloading to a population of receiving devices (16) a user profile characterizing an associated user in terms of demographic or psychographic criteria. Advertising material is then widely broadcast to the population of receiving devices (16) in association with a target profile. When a receiving device (16) receives the advertising information, it compares the stored user profile with the target profile and presents the advertising information only upon match or sufficient correspondence therebetween. Additional user subscription information may be presented at the time of advertisement presentation. Advertising material is thereby selectively presented only to users meeting designated demographic or psychographic criteria and having heightened interest in the presentation.</p>			

relevant to an identifiable target demographic or psychographic profile. For example a news item on a particular sporting event may be associated with a particular target demographic or psychographic profile. In any event, content segments 32 are provided to users of receivers 16 based on a user subscription for such information service. Important to note, the user has specifically requested such content segments 32 and has a relatively heightened interest in such information. When a user subscribes to a given information service, the user's receiver 16 holds a group address associated with that information service. When the receiver 16 encounters a group address in data signal 14 matching one of its stored group addresses, the corresponding transmission is stored for presentation to the user.

A plurality of advertisers 40, designated advertiser\_0...n in FIG. 1, place advertisement orders 42. Each advertisement order 42 includes a voice data segment, e.g., "brought to you by XYZ Corporation." A voice data segment may be a more complete presentation or information-commercial carrying its own content, i.e., something beyond mere reference to a sponsoring advertiser. Each advertisement order 42 also includes a "target profile", e.g., an identification of a target audience expressed in terms of demographic or psychographic information including but not limited to age, sex, income, interest topics, and the like.

System 10 interacts at various times with users 46, i.e., users, or receivers 16, and gathers demographic or psychographic information. For example, when users 46 first subscribe to paging system 12, certain information may be collected, e.g., age, sex, income indicators, topic interests and other information items indicating demographic or psychographic values. Further, users 46 subscribe to certain information services, e.g., sports, weather, or stock information, regularly provided by content sources 30 as content segments 32. Each time a user 46 subscribes to a given information service, this provides further indication of demographic or psychographic values for that user 46. System 10 thereby collects over time a body of demographic or psychographic information for each user 46. As used herein, the term "user profile" refers to a collection of such information pertaining to a given user of a receiving device 16. The user profile may be viewed as a multi-dimensional value expressed in terms of specific numeric values or ranges of values for a variety of demographic or psychographic criteria. By coordinating the structure of user profiles, each representing a particular user of a receiver 16, and target profiles, designated by advertisers 40 for a particular advertisement, a comparison may be executed by means of, for example, a query language. A match or substantial correlation between a user profile and a target profile may be detected by appropriate comparison algorithms or multi-dimensional analysis.

System 10 maintains at paging system 12 a data base of all user 46 profiles. Furthermore, each individual user profile is downloaded into the corresponding receiving device 16. By executing similar algorithms at paging system 12 and at receivers 16, selective advertisement presentation system 10 precisely predicts profile comparisons within each member of the population of receivers 16. In this manner, selective advertisement presentation system 10 offers to advertisers 40 a specific and accurate prediction of the number and character of people receiving particular advertisements for a given target profile.

Thus, system 10 collects information from users 46, advertisers 40, and content sources 30. Users 46 provide demographic information concerning themselves. Each receiver 16 receives and stores a corresponding user profile and system 10 maintains centrally a data base of all user profiles. Advertisers 40 provide advertising segments, or sponsor information services, including specification of demographic information identifying a target audience. Users subscribe to information services originating from content sources 30. Advertisement or content sponsorship presentation at each receiver 16 is based on a correspondence between the target profile identified by the advertiser and the particular receiver 16 user profile.

## CLAIMS

What is claimed is:

1. A method of selective advertisement presentation comprising the steps:

downloading to each member of a population of receiving devices a user profile characterizing an associated user;

broadcasting to said population of receiving devices advertising segments, each advertising segment being associated with a target profile; and

presenting at a given receiving device a given advertising segment when a user profile stored at said given receiving device corresponds to a target profile associated with said given advertising segment.

2. A method according to claim 1 wherein said user profile and said target profile include information concerning at least one of age, sex, income indicator, and interest topic.

3. A method according to claim 1 wherein said presenting step comprises storing said given advertising segment and showing said given advertising segment in response to user interface of said receiving device.

4. A method according to claim 1 wherein said presenting step includes presenting to said given user an information subscription presentation previously requested by said given user.

5. In an information distribution system including an information broadcast facility and a population of information receiving devices providing information to a population users, each user being associated with at least one information receiving device, a method of advertisement presentation comprising the steps:

collecting a user profile for each of said users;

transmitting each user profile to the associated information receiving device for storage therein;

transmitting an advertisement to said population of information receiving devices, said advertisement being associated with a target profile; and

presenting to selected ones of said users said advertisement when said target profile corresponds to said user profile.

6. A method according to claim 5 wherein said user profile characterizes a user relative to at least one of age, sex, income, and topic interest.

7. A method according to claim 5 wherein said target profile characterizes a user relative to at least one of age, sex, income, and topic interest.

8. A method according to claim 5 wherein said presenting step includes presenting to said selected ones of said users an information subscription presentation previously requested by said selected ones of said users.

9. A selective advertisement presentation system comprising:

an information transmission facility, said information transmission facility transmitting user profiles and transmitting advertising material in association with a target profile; and

a population of information receiving devices, each device including an information storage portion and an advertisement presentation portion, each device storing an associated user profile obtained from said transmission facility, each device comparing its stored user profile to a target profile of transmitted advertising material and presenting at said presentation portion said advertising material when said target profile corresponds to said user profile.

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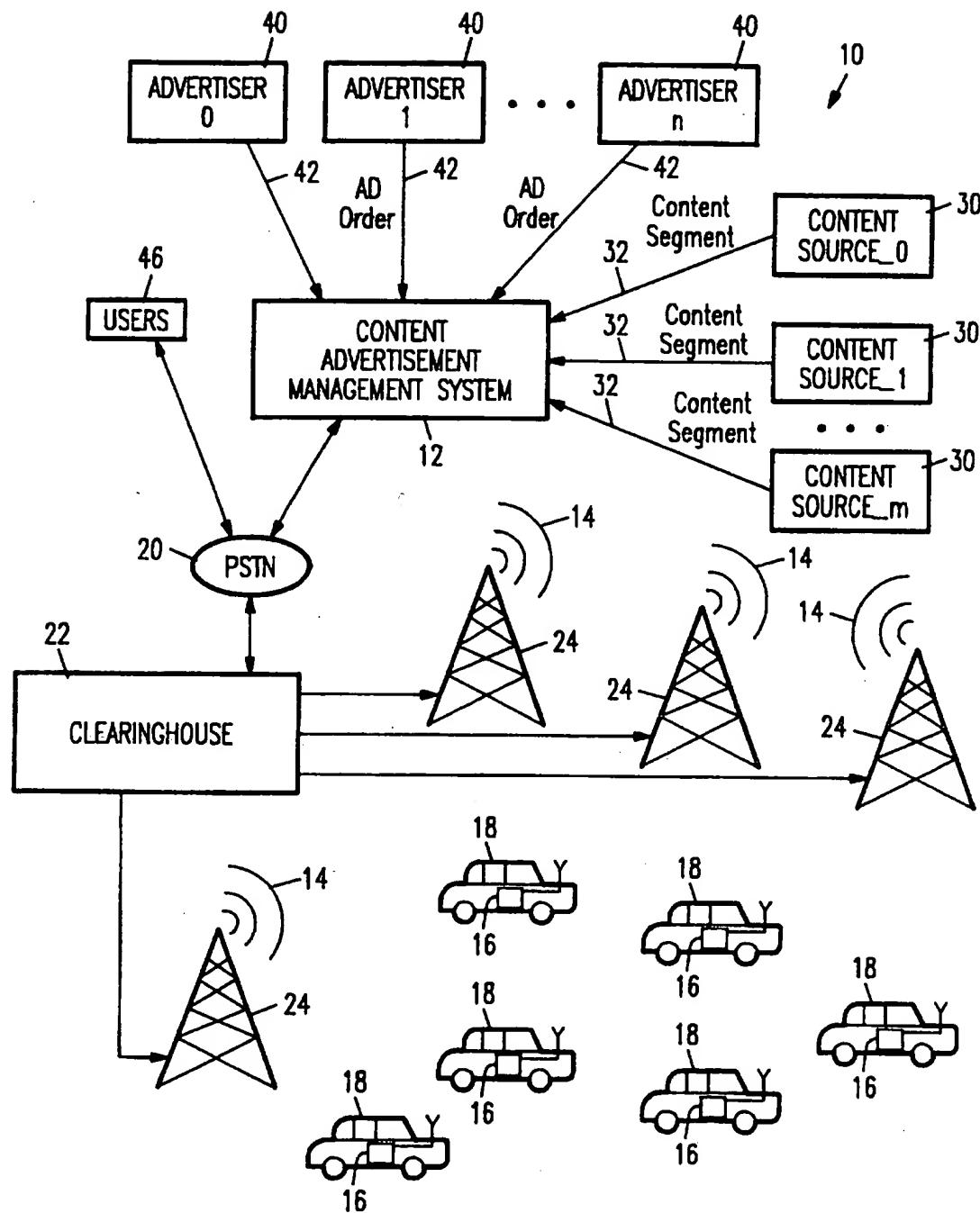


FIG. 1

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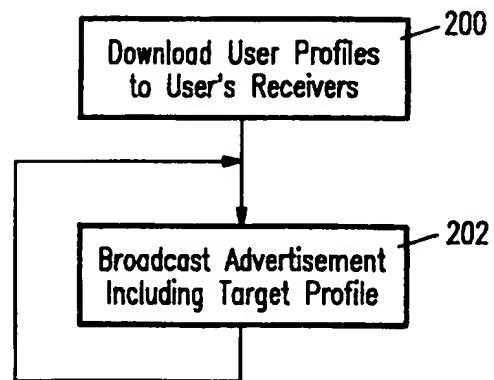


FIG. 2

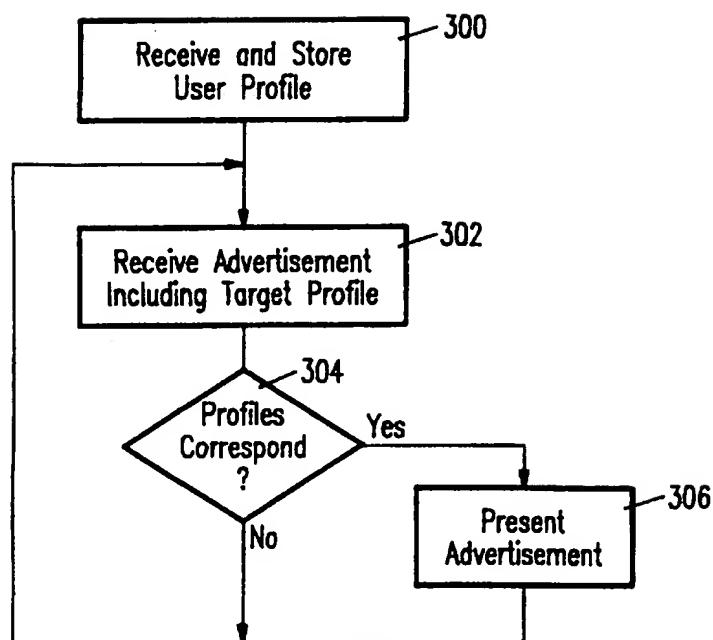


FIG. 3

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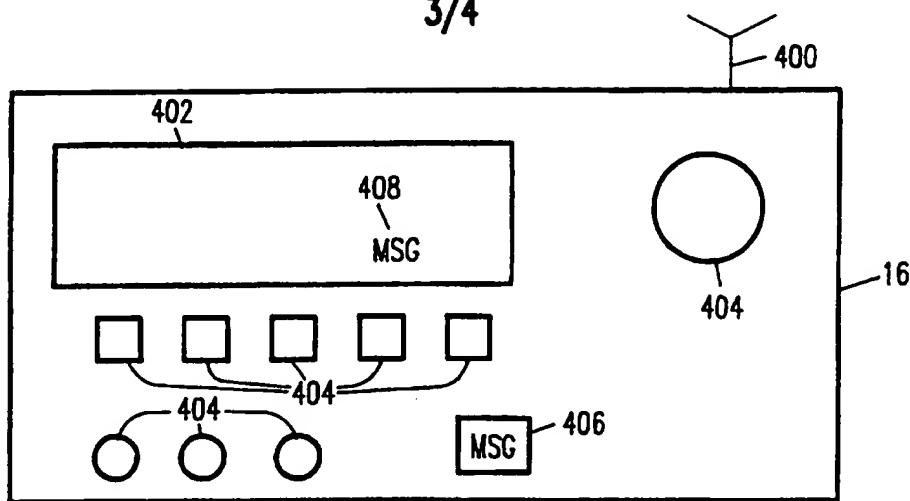


FIG. 4

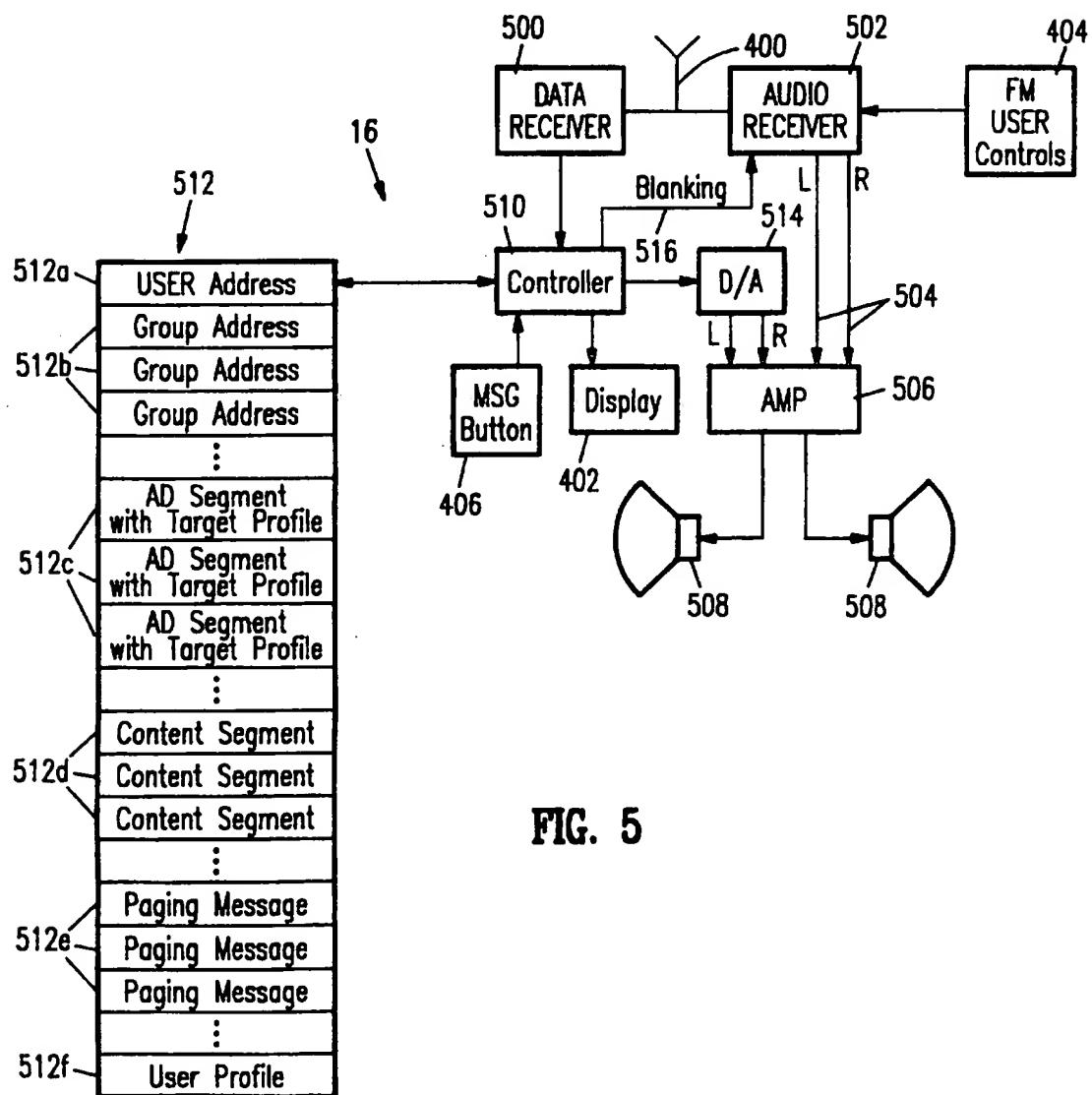


FIG. 5

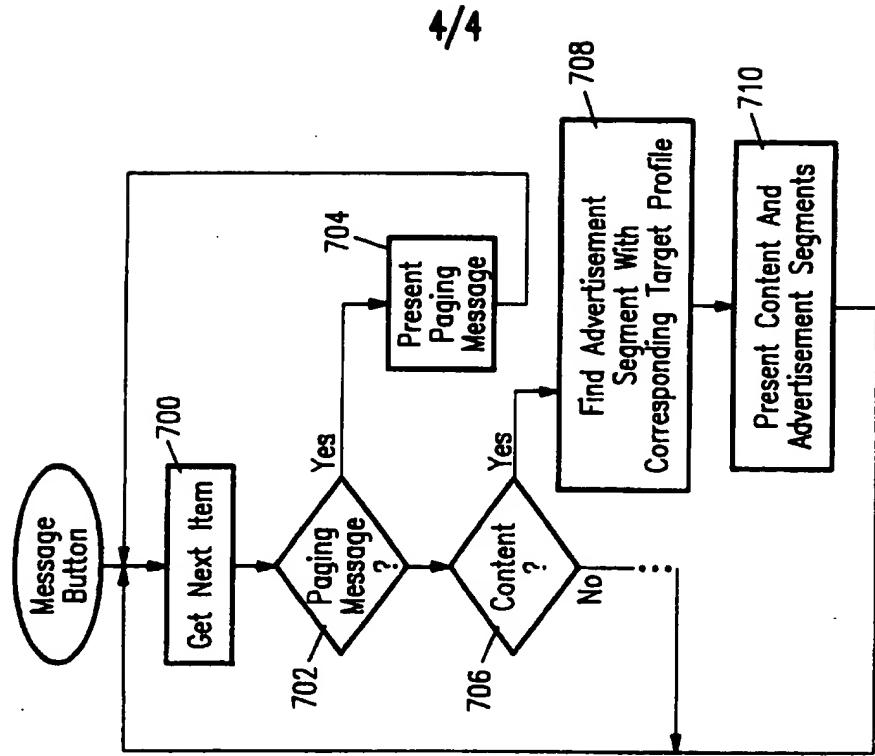


FIG. 7

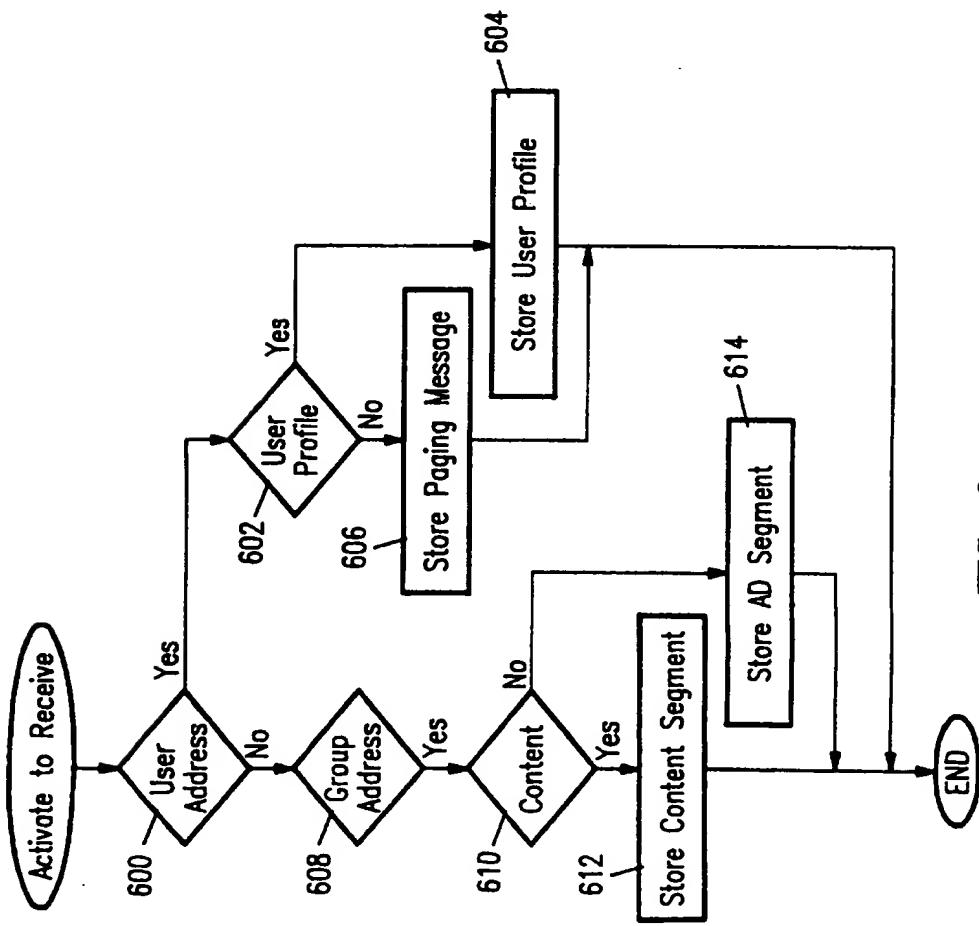


FIG. 6

## INTERNATIONAL SEARCH REPORT

International application No. PCT/US96/17690
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**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(6) :H04B 17/00; H04N 7/00  
US CL. :Please See Extra Sheet.

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 348/1, 9; 455/2, 45  
H04N 7/00, 7/10

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,251,324 A (MCMULLAN, JR.) 05 October 1993, see whole document.	1-9
Y	US 5,446,919 A (WILKINS) 29 August 1995, see whole document.	1-9

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be part of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search	Date of mailing of the international search report
30 JANUARY 1997	25 FEB 1997
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International application No.

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**A. CLASSIFICATION OF SUBJECT MATTER:**  
US CL :

348/1; 455/2